AMATEUR-RADIO

INCORPORATING THE N.S.W. DIVISIONAL BULLETIN

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AN INTRODUCTION TO SIGNAL TRACING.

.. PART II ..

. By Frank Cross VK2FX .

It would be useless to give a constructional article on how to build a Signal Tracer, complete with a list of parts and a point to point description of the wiring because parts are so hard to obtain that duplication of my own tracer would be practically impossible. Anyway what true Ham follows a constructional article? He usually uses gear which he has on hand and redesigns to suit his own ideas, so all that will be attempted in this article will be the requirements of the Signal Tracer, and a few tips so that you may avoid some of the woe that has bee n mine.

A Signal Tracer is a tuned vacuum tube volt meter. It can be of the T.R.F. or Superhet variety and is no more difficult to build than a T.R.F. or Superhet receiver. As it is a tuned VTVM it is essential that it cover the frequencies that you desire to measure and listen to, so if you are interested in servicing BCL receivers your tracer should cover all the frequencies the receivers cover including the S.W. range, say from 13 to 50 Mc., and the I.F. ranges (175 and 465 Kc.) to be of maximum benefit. It is not necessary of course to cover all these frequencies to make a very useful instrument, for by only covering the BC band and up to 400 Kcs, you can use it on about 90% of the BC supers and if you do strike a DW set and you know the BC range is working correctly you are well on the way to locating the trouble.

Figure 1. shows a circuit suitable for a Signal Tracer of the T.R.F. variety. Coil switching or plug in coils can be used, but I will leave that to you. In my case, as no suitable coil switch was available "H" type coils, condenser and dial were used for the BC band and .00025 mica condensers shunted by trimmers were switched across the gang tuners to enable the 465 Kc. I.F. band to be covered.

The first tube circuit requires explanation. The probe lead is a piece of low capacity microphone cable, the shield of which is grounded to the tracer chassis to prevent pick up from any part of the first grid circuit other than at the test probe point, which is coupled to the centre lead of the cable through a small capacity in the vicinity of 1.5 mmfd., situated right at the probe end of the cable. This small capacity at the probe point and the capacity of

the cable and entire grid circuit form a signal divider which is independent of frequency. Referring to Fig. 2. say the capacity of the series probe condenser PC is one mmfd. and the entire grid circuit capacity including the cable is equal to 99 mmfd, then if a 100 microvolt signal was placed across the points AB, only one microvolt would appear at point "G", as the capacitive reactance of PC is 99 times greater at any frequency than the capacitive reactance of the grid circuit, Gc.

Were we to use these capacities in our tracer we would get only one hundredth of the signal under test to appear at the grid of the first tube in the tracer. For this reason the two tuned stages of amplification between this stage and the detector are recommended, if it is desired to measure the stage gain of the first tube in a receiver.

If a greater capacity is used in series with the probe, a greater signal will appear at the grid of the first tube, but the detuning of the circuit under test will be too great, therefore a series capacity of not greater than 2 mmfd is recommended.

Returning to Fig. 2, let us ascertain the values of condensers C1, C2, and C3. As we wish to use these capacities to reduce the signal in steps of ten, C1, will have to increase the total capacity of the grid circuit, Gc. to 999mmfd. and C2. and C3. to 9999 mmfd and 99999 mmfd. respectively. This will allow us to attenuate the signal in convenient steps. The variable cathode resistor in the first tube circuit is calibrated from 0 to 10, and by rotating this throughout its range, thus varying the amplification of the tube, the signal appearing at the detector will vary as though the attenuator switch were being used. This will provide for the units of attenuation and we will then be able to vary the attenuation of the signal from 100 times to 1,000,000 times in convenient steps.

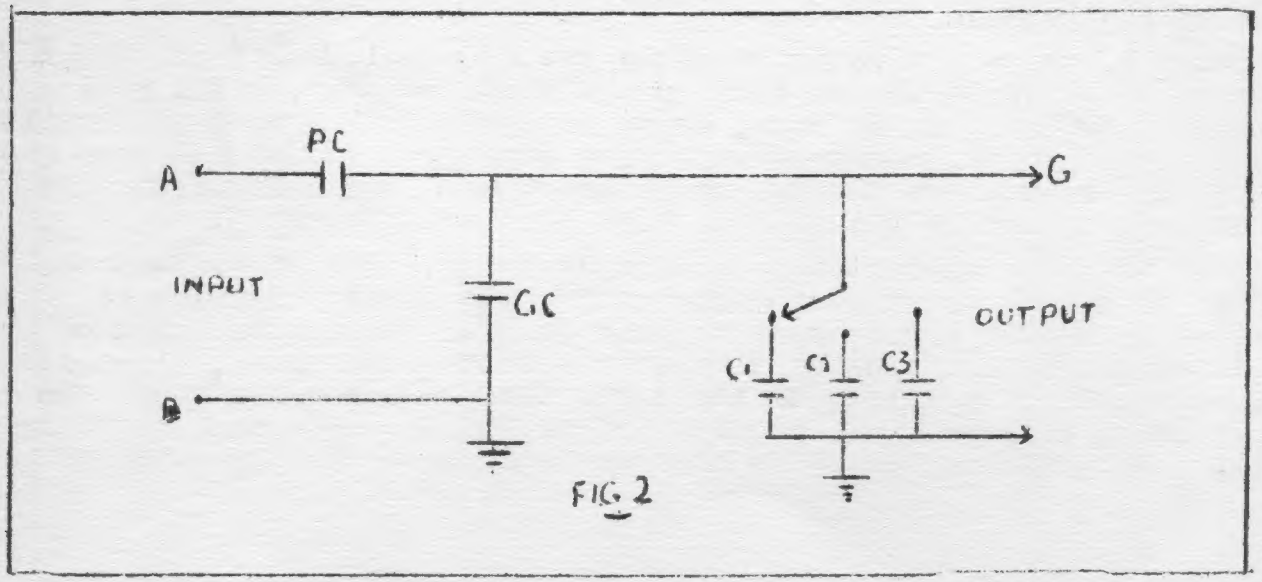

FIG. 2

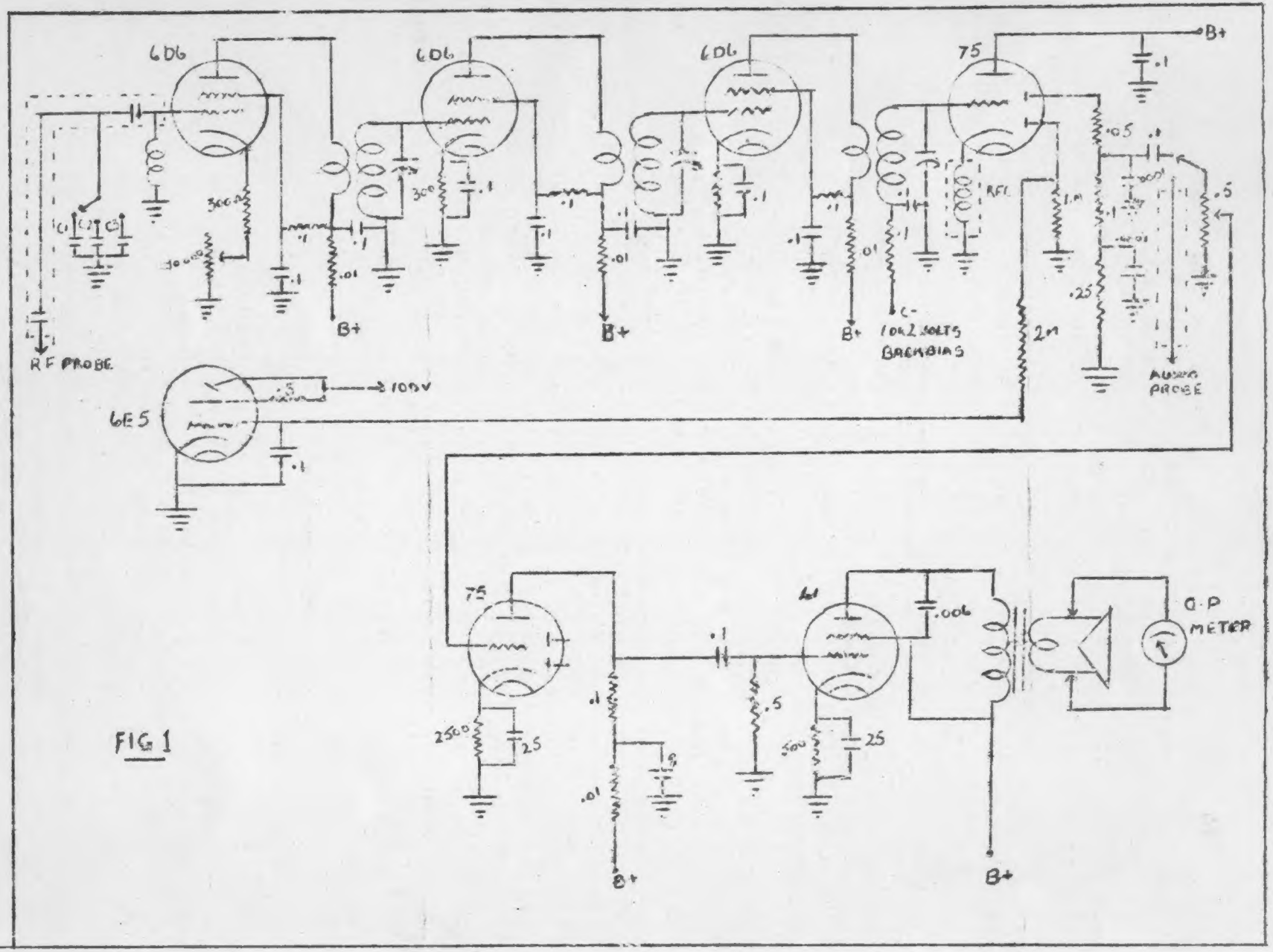
6D6
6D6
6D6
75
B+
.1
.05
.5
.25
1M
2M
RFC
RF PROBE
AUDIO PROBE
C-
10 to 2 VOLTS
BIAS
6E5
100V
75
.1
.006
.5
25
.01
C.P
METER
B+

FIG 1

Actually we forget the 100 attenuation in the probe lead, and call it attenuation from 0 to 10,000.

As very few hams, if any, have at their disposal a bridge capable of measuring these capacities, we are forced to use cut and try methods. Even so, a fairly good job can be done and you may be helped by starting where I finished. After trying many combinations, I am using about two inches of twisted hookup wire as the series probe condenser, three feet of .104 microphone cable as the lead and .001, .01 and .1, mfds. as C1, C2, and C3, respectively. A full rotation of the gain control gives exactly the same variation as either of the first two condensers, but the .1 condenser attenuates the signal too much. It has not been possible to the present time to obtain .1 condensers in various brands, to try, but you may be luckier than I. The marked value on the condensers vary considerably from their real value, and several .01 condensers were tried before striking a scraggy old thing that gave the right attenuation.

This first tube and the attenuator circuit could be fitted to any receiver which has some means of comparing signal strengths, an eye or an output meter, so that opens up possibilities of using your ham super to trace woe in receivers that cover the S.W. bands. Another possibility is to use this attenuator stage to feed into the detector as shown in the circuit complete with the eye indicator, but leaving out the two tuned R.F. stages, to track down trouble in the rig after the mar. Only one tuning coil of the plug in variety so that the ham bands can be covered is all that is needed, as the transmitter will put in enough signal without amplification to work the eye. Probably we find that we can reduce the probe series capacity to reduce detuning of the transmitter circuits under test and still have plenty of soup for the tracer, especially on the final stage of some of the 25 watt rigs.

As the T.R.F. stages are conventional no comments will be made about them, except to say that you can have one or two stages and still have a useful tracer. I have only one stage as the only condenser available was a two gang. If you can get a three gang from an antique dealer by all means use the two stages.

The detector circuit is somewhat unusual. It has been recently developed in the States with the idea of using a high impedance detector of not loading and tuning circuit, thus aiding the selectivity and tracking at the same time, and allowing us to use an eye. The R.F. Choke in the cathode circuit should be effective over the frequencies tuned and preferably shielded. Use 100 volts for the target of the electric eye, with a .5 megohm resistor between the target and plate. Under these conditions the eye will close with about 3 volts bias instead of eight. The extra sensitivity and life of the eye will compensate for the reduction of flourescent glow with the lower voltage.

The audio end needs no explanation, but the greater the sensitivity the better. You can make it to suit your needs. You perhaps could use one stage feeding into a pair of cans, and you could do away with the output meter eye, and just use the audio probe switched to the diode position, as an audio voltmeter. In fact you can make a tracer just as cheap or just as expensive as you like and

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Q OF SHORT WAVE COILS

From an article by Mr. P. O. Michael, G... Company, U.S.A.

X X X

When a voltage is induced in the coil of a tuned circuit at its resonance frequency, a much greater voltage is developed across the coil and condenser, having to the induced voltage the same ratio as that of the reactance of the coil (or the condenser - both being equal) to the resistance of the coil and condenser. This ratio has been termed Q, and for a tuned circuit:-

$$\frac{1}{Q \text{ of tuned circuit}} = \frac{1}{Q \text{ coil}} + \frac{1}{Q \text{ Condenser}}$$

Radio frequency oscillators require coils of high Q for efficiency and frequency stability and tuned amplifiers need them for gain and selectivity. It is therefore desirable to know the optimum size and shape of coils for maximum Q and the degree to which performance falls off with their variations as well as the relative merits of different dielectrics available for support.

In any high frequency coil there are two sources of losses having the effect of raising the effective resistance of the coil the Metallic losses and the Dielectric Losses.

METALLIC LOSSES

SKIN RESISTANCE ... The effective resistance of a conductor at high frequencies is greater than its direct current resistance because alternating magnetic fields cutting the conductor make the current distribution non-uniform.

1. SKIN EFFECT ... In an isolated long, straight cylindrical conductor the high frequency current is concentrated toward the periphery. For frequencies above about 15 Mcs the effective resistance may be shown to be approximately

$$.056 \sqrt{10\text{-}6}\ fr$$

where:- f = cycles / second
r = resistance in ohms / cm
and the magnetic permeability is unity.

If the form factor (length / diameter) and the winding space factor (wire diameter / pitch) are held constant, it can be shown from the skin effect formula , and the usual inductance formula for single layer solenoids, that in the frequency region where skin-effect is prominent and neglecting coiling effect and dielectric loss the ratio inductance / effective resistance (or Q-) is proportional to coil size and independent of the number of turns.

2. COILING EFFECT . When a conductor is in the field of other conductors, the current distribution is still further disturbed, and in a coil the resistance is raised above the skin-effect value by an amount depending upon the number, proximity and direction of the other conductors. It is found that coiling effect at high frequencies is mainly dependent upon space factor.

$$\text{Coiling effect} = \left[1 + A \left(\frac{d}{p}\right)^4\right]$$

d = wire diameter

p = winding pitch

and A is a function of coil shape and number of turns. A value of 2 may be used for short wave coils. From the two formulae above, it is found that optimum wire diameter for short wave coils is approximately 0.7 times the pitch. When it is not possible to work to this figure a less serious error is introduced by using wire too large, than if the wire be too small in diameter.

3, LEADS .The circuit leads including the metallic path of the current in the condenser also add resistance due to skin effect, but coiling effect is not important except in the extreme UHF region.

4. CAPACITY IN COIL . . When the frequency approaches the natural resonance value of the coil the current varies from turn to turn due to the capacitative current across turns and thus upsets the basic skin-effect and coiling effect relations, but as coils usually have a natural resonance frequency well above the operating frequencies this may be neglected.

Metallic Losses are caused by heat dissipated in shields etc. by induced currents. These effects may not be readily calculated and are usually minimised by keeping the coil clear of shields and other metallic objects by a distance of one or two coil diameters. Any parts which cannot be kept away from the coil may be silver or copper plated.

.. DIELECTRIC LOSSES ...

IN THE COIL . . the insulating supports for the coil cause losses because they are a dielectric froming part of the distributed capacity of the coil. This effect is minimised by using only low power factor dielectrics in the field of the coil, and as little of them as practicable.

IN THE CONDENSER . . At broadcast frequencies the losses in the condenser are negligible, but at high frequencies this does not hold and the condenser losses frequently become greater than those in the coil. Condenser losses may be minimised in the same manner as set out above for dielectric losses in the coil.

RADIATION RESISTANCE... Negligible at low and high frequencies, losses due to radiation from the coil become serious only at extreme ultra-high frequencies.

CONCLUSION... The following conclusions were reached from measurements of Q taken on various coils at frequencies between 15 and 30 mc/s.

At frequencies above 15 Mc/s the Q of a tuned circuit is dependent as much on the condenser as on the coil.

Coil Q appears to be nearly proportional to coil diameter, but with conventional tuning condensers increasing the coil diameter from one inch indefinitely would improve the circuit Q by less than 2 to 1

Optimum coil shape factor is of the order of 1

Optimum wire diameter is of the order of 0.7 times the winding pitch, but a reduction to 0.5 results in a decrease in Q of only about 5 per cent.

Polystrene and acrylate composition grooved froms provide compact coils which with a conventional condenser at 20 Mc/s gives a tuned circuit Q of 200, and with phenolic composition grooved forms about 170.

Using a conventional type of high-frequency condenser (with ceramic insulation) and coils supported on grooved forms of low-loss material an overall circuit Q of 350 is practicable at 15 to 30 Mc/s with coils of one inch diameter and length.

(Continued from page 4)

there can be just as much variation in tracers as there is in Ham receivers or transmitters.

Don't try to use shielded hook up wire as the RF probe lead, as the capacity is too high. You may get away with hook up wire in some large tubing covered with shielding similar to that used in cars for the aerial lead-in, if no mike cable is obtainable.

Don't use an ordinary diode detector if your tracer is of the T.R.F. variety unless you want it to be as broad as a barn door.

Don't neglect to have a go at making a tracer. The time you spend in building one up will be repaid, when you want to get your junk pile on the air in a hurry.

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In these days of conservation and preservation, it might interest those meticulous amateurs and others who trim up odd soldering jobs with a small-cut file, and who find that the file fills with solder. The solder can easily be removed by soaking the file in lead solvent such as used by riflemen. After using the solvent the file should be brushed briskly with a stiff bristled brush. . . . OST.

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TECHNICAL LIBRARY

A page of book reviews conducted for the benefit of Hams in the Services, and others similarly situated

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SHORT WAVE WIRELESS COMMUNICATION (including U.H.F.)

This is a book which while technically excellent in many respects, is open to critism for its sketchy treatment of some of the subject matter and for its haphazard make-up.

Commencing with an historical introduction, which incidentally pays a tribute to the Hams for their early Short Wave work (and ignores their more recent U.H.F work) it then turns to Modulation and High Frequency Waves, Propagation, High Frequency Feeders, Aerials and Aerial Arrays. Then follows Push-Pull, Power Amplifiers, Oscillators and Constant Frequency Oscillators, Electron Oscillators, Modulation Circuits, Problems of Reception and commercial Receivers (consisting of a description of a Marconi Co supernetrodyne, a very conventiona l one at that).

Finally, Commercial Wireless Telephone Circuits, Commercial Transmitters, and U.H.F. Therapeutic Apparatus are dealt with. Best Chapters are those on aerials, Constant Frequency Oscillators and Modulation Circuits.

This book has obviously been written for engineers dealing exclusively with commercial communication systems, and the co-authors are two such engineers. We think this a pity, however, that such a work should be interspersed with so many free adds for the Marconi Company. While we realise the fine work this organisation has done and have the greatest of admiration for its late founder, we really feel that the Marconi Co is sufficiently well known to survive and continue to grow great without continual mention throughout the pages of what should be a purely technical work.

In conclusion we take the authors to task for their statement that the design of commercial receivers calls for the highest possible sensitivity "because of the reduction of power of commercial transmitters to the barest minimum." We are well aware that regulations require minimum power for the particular purpose, but surely Messrs. Ladner and Stoner have heard of those "V" wheels which for the past 20 years or so have so uselessly cluttered up the ether with high power.

However, if you want a book which, whatever its shortcomings in a non-technical sense, is technically very sound, and is written with special application to Short Wave work, this is it.

Short Wave Wireless Communication, by Ladner and Stoner 4th Edn. (1942) ... 573 pages ... 57/-

Our copy by courtesy McGills Newsagency.

Alec M. Clyne - Review Editor.

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SLOUCH HATS and FORAGE CAPS.

As our Yank Cousins say....What do you know???...well, you are pretty slow on those notes, I know, just to give you all a nice "new" piece of news to start the month off with.

Incidentally, these "winges", sez some crude lads...these "moans" says those, who remember a few faroff lessons in politeness to old age....or these "pleas" as gentlemen and others have it....they must be pretty touching, no doubt due to the early hour in the morning at which they are born, for October's effort touched a guilty conscience way off in London, "G". So Maurice Lusby, one VK2WN who is mixed up with Scientific affairs one way and another, used the Air Mail and the modern Airgrapph and just missed the February issue.

2WN has been away from Aussie for nearly two years spending a good deal of it in America and now in England. Sqd. Leader VK2OR Maurie Brown is also working with him at the moment while a third VK2 Ian Cuffe 2XC a Lieut in the RNVR is a pretty constant visitor at their flat. 2XC is one of those rare birds...a Ham with a Commission in the Navy, and should have some good stories to tell the VK2 Division after the War, not to mention what the two Morries will be able to let some light in on. Hi! The last paragraph of 2WN's letter I will quote "Just moved into a new flat, but not sure its a good idea. I had eight Steel-concrete stories above me at the last place..,only one above me here. Didn't occur to me till we had a raid the other night"...so I wonder what Maurie's been thinking since the second "blitz" got a go on??? Hi!

Qra for "Snow" Campbell, VK3MR, (as if we all don't know his call, sez the mob...) Campbell M.R. Sgt. 9190 RAAF. Kriegsgefangenennummer 29604...Stalag Luft III...(ViiiB)...Germany. It's in Poland so G2YL says, who kindly sent the news per Airgraph. So when you get a spare moment, remember a card to Snow will be more appreciated than the best bit of DX he ever raised in the "good old days". The "D's" seem to give the mailman a better chance than the little yellow men do. But they will no doubt commence to be "Hon.," men very soon now, by the looks of things. Hi!

VK30F just about finished his 26 days leave down at Hampton, and not a blade of grass cut on the lawn yet, so I hear. Wilf 2ALF now wandering around up North on another cruiser, keeping the Admiral company, but hopes to join 30F again soon.

Captain Don. B. Knock is still down in Vic and is just about a VK3 he has been there so long. At the Staff Corps Mess there is usually a gathering of hams representing almost all the States and the topic sooner or later is always what they are going to "do after the War." Have you decided how to run a Federal Institute yet, oms? And, Don, just say, "Notes" to Johnny Traill for me...thanks ever so much.

Charlie Miller, I mean Sgt. Miller once VK2ADE is now at Amberley after a couple of quick shifts around. As Charlie was originally a VK4 no doubt this posting suits him pretty well. What a pity those ZL's got away on us Charlie (2YC).

VK4RF is swotting Trig. Algebra and various other things besides revising about what makes the kilocycles go down at Flinders. His instructor is Ken Bracken VK2FF (how are you Ken....vy long time no see...2YC) and carved on Govt. property in the school are the following calls...VK2CT, 2BK, 2ADI, 2AHX, 6IG, 7JT and 4RF. The last is no doubt the result of bad example. Hi!

Corporal Jim Stevens VK3ZK has been spending a spot of leave in his home town, Swan Hill. Spends his working hours helping to keep the "Cats" in the air somewhere up North. Has had those two stripes for some time now--perhaps there is another in the offing.

Sgt. H. D. Ackling NX 26238 of the Aust. Spec. Wireless Group once well known as VK2PX arises out of his "grandfatherly" sleep and after a few years announces he is up Brisbane way. Harold, om, such shocks are not good for me, in my old age. I say where is that Commission they said was "just round the corner" in the circular they sent us all...did you say it was 3 years and 8 months ago. Verily, one has to be very careful of advertising. Hi!

Leading Telegraphist Ken Allen RANR (hope I have those all important initials right) has at last managed to get a few weeks home leave and turned up at the Victorian Division where he entertained the rest of the boys with the story of some of his doings over the past few years, including the "true" story of those famous meters!!

Another ham to turn up at the January meeting of the VK3 Division was Capt. Jack Winton VK3XR of an AIF Artillery unit. At that time he was on leave from way up " Darwin way." Jack spent some time in the Middle East and although his job is not a radio one, we believe, he was able to turn on a demonstration of considerable value to the Sigs section.

VK3FR Sgt. Fred Smith also turned up at the VK3 January meeting. It was his first home leave after eighteen months in the West where he spent most of his time training prospective signallers. He has now been transferred to a Sig. Training School at Bonegilla...maybe he is now training AWAS.

VK3BG. Sgt. Roth Jones RAAF is now spending his time up in the Gulf country.

VK3MJ Sub Lt. D.J. Medley RANR is stationed in Sydney and from what he had to say at the Feb meeting of the Vic Division, he manages to see quite a bit of the Harbour....Don't forget the VK2 Division meetings on the third Thursday, om....2YC.

Pilot Officer Gordon Templeton VK3OW is another of the original RAAF Reserve boys who has bee n on the job since September 1939.

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D I V I S I O N A L N O T E S.

NEW SOUTH WALES DIVISION

The 34th Annual General Meeting of the Division was held at Y.M.C.A. Buildings on Thursday 17th February and the attendance was representative of all sections of the amateur community.

The Annual Report was unanimously adopted and Council was congratulated upon their work over the past year. Some considerable discussion took place regarding the suggestion of an Australian W.I.A. with a permanent staff similar to the R.S.G.B. and A.R.R.L. Members were of the opinion that immediate consideration should be given to this matter and that Federal Headquarters should obtain an expression of opinion from all States.

A rather interesting letter from H. J. Taylor VK2TC regarding the possibilities of using Radio in connection with Bush Fire Brigades was the subject of no little comment particularly as Members were informed that the matter had been taken up with N.E.S. and that body was interested. It is hoped that further information will be available in time for the next General Meeting. Every effort is being made to interest the powers that be and if the scheme comes into operation it will present country members of the E.C.N. with their long awaited opportunity. 2DG please note!

During the past few weeks quite a few members have queried the possibilities of holding some form of contest that would embrace the building of equipment other than transmitting apparatus that would be of value in the post war Amateur Station. Several suggestions were put forward as to the form this Contest would take and it was decided that the Contest would be held and that details would be finalised at the next meeting. One suggestion that will be adopted was that a prize be given for an essay on "Post War Amateur Radio."

During the evening the poll was declared for the election of Council for 1944 and was as follows:-

W. G. Ryan	VK2TI	63	G. Cole	VK2DI	28
C. Fryar	VK2NP	57	R. Miller		28
R. Priddle	VK2RA	56	J. Keane	VK2JN	27
H. Peterson	VK2HP	54	C. Higgins	VK2LO	17
F. P. Dickson	VK2AFB	52	H. G. Wilson	VK2AGO	12
E. Hodgkins	VK2EH	45			

Seven Councillors were to be elected and from the above it will be seen that Messrs. Cole and Miller tied for seventh place and it was decided to place both names in a hat and a draw be made with the result that G. Cole, VK2DI gained seventh place.

The various Office Bearers will be elected by Council at its first Meeting after the Annual General Meeting.

At the conclusion of General Business a general discussion took place dealing with "The Feeding and Rotation of Three Element Beams" and one of our new Members, Mr. Ken Davidson dealt at some length on the mechanical aspect of the subject.

The next General Meeting of the Division will be held at Y.M.C.A. Buildings on Thursday 16th March and the main item on the Agenda will be the proposed Contest. If you have any ideas, come along and put them before the Meeting.

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EMERGENCY COMMUNICATION NETWORK

The Competition for the E.C.N. Cup (Second Series) is now rapidly nearing completion. The degree of efficiency attained by each station is very heartening to the organisers and from this angle alone the contest has justified its inception. There is so little difference these days between any station that the Committee are forced to pick on the slightest error as an excuse to deduct points. The exercise just concluded resulted as follows:-

VL2JJ, VL2JE each 198. VL2JC 197. VL2JL, VL2JK each 195, VL2JP 194 and VL2JF 193. It is very pleasing to see VL2JE sharing the honors this month. This station presented quite a few difficulties until the last few months both from a technical and an administrative angle but these hurdles have now been overcome. VL2JL would also have shared the lead this month but for - VK2AJW please note - the "kindergarten" type of messages transmitted over two week-ends and a desire to enter into acrimonious discussion over the air.

Here are the aggregate points to date:-

VL2JC	909	VL2JL	880
VL2JJ	907	VL2JF	854
VL2JK	888	VL2JE	714
VL2JP	888		

March should see a very interesting tussle between VL2JC and VL2JJ. I wouldn't try and pick the ultimate winner!

As pointed out in previous issues N.E.S. intend to make greater use of the E.C.N. in the very near future. In the past Radio Practices have not been co-ordinated with those of other Sections of the N.E.S. All this will be altered. It is anticipated that Radio Stations will, in future, practice on the same

nights as the District Controls to which they are attached.

This will mean that stations will practice as follows:-

Tuesday Night.	Thursday.
VL2JD	VL2JL
VL2JK	VL2JE
VL2JP	VL2JF

During that week in which the third Thursday falls, all stations will practice on the Tuesday night. It is not known yet when this scheme will come into operation. Although there are only 5 D.A.C's there are no less than 69 municipalities and all these practice nights have to be co-ordinated.

All Operators will join in extending sympathy to both Messrs. Arthur Springett VK2OM and George Shelley VK2QF who both suffered bereavements in recent weeks through the loss of their mothers.

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POST WAR AMATEUR RADIO.

What are your views regarding this all important subject? Do you think that Amateurs should be granted the same privileges as in pre-war days? Do you think they should be restricted to operating on the higher frequencies? Should power be limited to 50 watts or a kilowatt or is there a happy medium. Do you think the Institute should have a permanent staff. Do you think all Amateurs should belong to the W.I.A. What are your ideas of the post war Amateur Station? Do you think that Service and Civilian Defence Reserves should be organised and maintained by means of a Government subsidy. Do you think that the P.M.G. should vest in the W.I.A. the control of Experimimental Radio to a larger degree than they did in the past.

In an endeavor to find the answers to the above questions and of course many others dealing with Post War Amateur Radio, the New South Wales Division of the Institute has decided to offer three One Pound War Savings Certificates as Prizes for the best essays received on this subject. Essays will not be restricted as to length, but if possible should be typed. The Competition is open to all Amateurs in Australia. The definition of an Amateur is a person who is interested in Experimental Radio. In order to give Servicemen an opportunity of forwarding entries the Competition will close on 18th May 1944 whilst all other entries should be sent in not later than 20th April 1944. Entries should be addressed to Federal Secretary, W.I.A., 21 Tunstall Avenue, Kingsford N.S.W. and endorsed "Essay Competition".

The winning Essays will be published in "Amateur Radio." The judges, whose decisions are to be regarded as final, reserve the right to increase or decrease the number of prizes dependent upon the number or merit of the essays received. Remember the Contest will close on 20th April 1944 for all Amateurs other than Servicemen and 18th May for Amateurs on Service.

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VICTORIAN DIVISION

Since Christmas the Victorian Divisional Council has been very busy in exploring the possibilities of establishing a Radio Communications Net to act in conjunction with the Fire fighting authorities.

On New Year's Eve following a report in the daily press that there was lack of manpower and communications, Council contacted the Forests Commission offering the services of operators and where possible equipment. This was per telephone, two days later a letter was forwarded confirming the 'phone offer.

Following the disastrous fires in the Western District, Council received a telegram signed by various Western District hams. The main text of the telegram read:- "Meeting of Western District Bush Fires Association unanimously adopted suggestion Amateurs co-operate radio communications fight bush fires. Request Institute assistance." Immediately two representatives of the Victorian Division contacted responsible State authorities and received every encouragement, which resulted in the attendance of representatives at a meeting of one of the fire fighting bodies, where the scheme was explained in detail by the aid of maps.

This body were very enthusiastic in the scheme, and it was gathered that they were working on a big re-organisation scheme into which the radio network would prove of utmost value.

To date nothing further has been heard by Council. This of course was anticipated, and Council is very hopeful that the authorities will see the value of the service that the Institute can offer.

Members interested in the re-formation of the Western Zone are asked to contact George (Tim) Wells...VK3TW...Hamilton.

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Enlisting as ACI, Gordon spent four years in Melbourne at RAAF HQ sigs. and later was for a time at Melbourne W/T station. He received his Commission in October '43 after being through all the ranks, and is now serving with GHQ in Brisbane.

And lastly here is the story of the "honest Ham"...apparently such really does exist...but I have yet to meet it. Hi! "it appears he was told by a Q.M. to take some Radio gear out of the said QM's way, and, under the impression that he was meant to take the gear to his unit the honest ham transported the gear and reported same to his C.O. Too late, alas, he discovered the QM meant that our honest ham could have the gear himself" ...wouldn't it?...So be careful, all ye who may be thinking of reforming.

Lastly the QRA is 78 Maloney Street, Eastlakes...the 'phone number is MU1092....and why the heck more notes don't arrive is because you are a lot of lazy so and sos...Hi!

These notes nearly didn't appear this month .... Ed.)

.....xxx.....